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Vietnamese parents who are members of ethnic minorities, such as the Hmong mother above, are less likely than ethnic majority parents to report child illnesses or seek care for their sick children. See story, page 2.

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 **Population Council**

RESEARCH THAT MAKES A DIFFERENCE

Vietnamese Health Policies to Improve Fairness May Miss Ethnic Minorities, Study Finds

Since the 1950s, the government of Vietnam has established a vast network of primary health facilities. In addition to improving the health of individuals, this system aims to promote healthcare equity throughout the country. Services include comprehensive prenatal care and delivery services, care throughout early childhood, and services for basic health needs throughout a person's life. Evidence suggests that these services have lowered infant and child mortality rates and improved life expectancy at all ages. However, recent research by the Population Council suggests that progress has been more rapid among the ethnic majority population than among ethnic minority groups in Vietnam. The country's early health initiatives for the

there are more than 50 in Vietnam—from the majority of Vietnamese. Evidence from national surveys and other studies indicates that these minority groups are generally poorer than the Kinh majority. Social indicators, such as levels of educational attainment, show that minorities are disadvantaged. Moreover, studies of health indicators demonstrate that minorities have higher morbidity and mortality rates than Kinh of equivalent ages. Population Council researchers Bussarawan Teerawichitchainan and James F. Phillips used data from the 2001–2002 Vietnam National Health Survey (VNHS) to assess parental recall of illness among their children under age 5 and analyze details of parents' care-seeking once they reported that their children were

self-care. At the second visit the survey takers used the diaries to prompt discussions about the illnesses that had occurred in the past month. In the survey, respiratory infection and diarrhea—two of the biggest killers of children under age 5—were distinguished from other childhood illnesses. These maladies accounted for 31 and 11 percent respectively of all reported illnesses among under-5 children.

Reporting illness and seeking care

Teerawichitchainan and Phillips used the survey data to analyze both the incidence of childhood illness and the types of care parents sought for these illnesses. Care-seeking included both consulting a healthcare professional and self-prescribing care with available medicines. When neither of these two types of care was sought, the child was classified as not receiving care.

The researchers found that, regardless of severity of illness, Kinh and Chinese parents were significantly more likely than minority parents to report child illness episodes. This finding held true even when analyses controlled for each child's ethnicity, age, sex, position in the birth order, the mother's age and education, the family's socioeconomic status, and the household's location. However, this finding does not mean that children from minority families were significantly healthier than children from Kinh and Chinese families. Separate research has shown that minority families in Vietnam are very likely to suffer from malnutrition; there are strong links between malnutrition and childhood illness. The authors suggest that the most likely explanation for the lower reported incidence of childhood illness is a parental inability to report illness.

The researchers found that at all levels of illness severity, literate mothers and mothers with some education were much more likely to

“One of the most striking findings is that a substantial number of poor minority parents reported that they did not seek any care for their sick children.”

poor may have failed to offset equity problems confronting impoverished ethnic minority families.

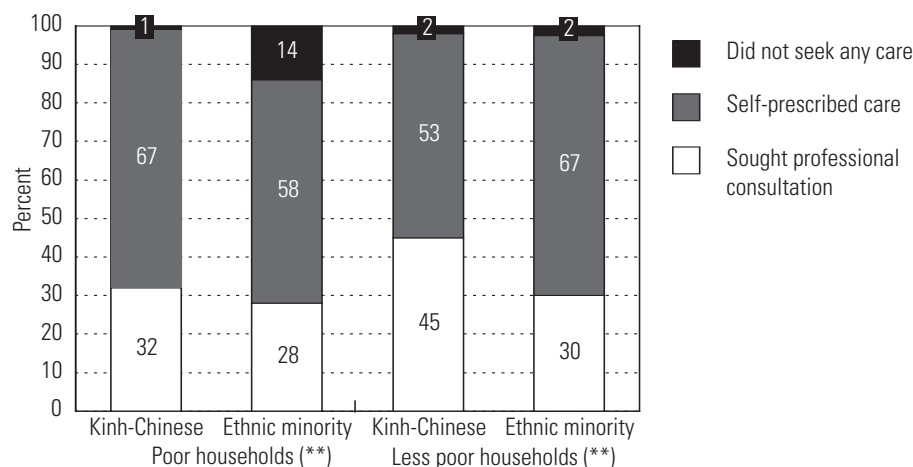
Ethnic Groups in Vietnam

About 85 percent of Vietnam's 84 million people belong to the Kinh ethnic group. In this study, the researchers combined ethnic Chinese, who account for only 1 percent of the population, with Kinh as a category because of the similarity of their social and economic characteristics. In contrast, cultural, social, and economic characteristics significantly differentiate other ethnic groups—of which

sick. The VNHS data were collected from a population-based nationally representative sample of 36,000 households containing 160,000 individuals from 1,200 communes nationwide. The sample included 11,355 children younger than age 5.

Each household in the survey was visited twice, the second visit taking place four weeks after the first. During the first visit, interviewers asked key people in the household to keep a record of any illnesses lasting more than 24 hours for every member of the household during the next four weeks. These recordkeepers were also asked to make note of any healthcare use and spending, including

Types of parental care-seeking in the event of childhood illness, by ethnicity and household economic status



**Difference between Kinh-Chinese and ethnic minority is significant at $p < 0.01$.
 Note: Results from chi-square tests of significance are reported in parentheses.
 Sources: VNHS 2001–02.

report their children's illness episodes. "Such findings attest to the need for further investigation into the factors that affect parental recall of illness, since under-reported incidence could lead to spurious conclusions about the social epidemiology of risk, for example that minority children are less likely to fall ill," said Phillips. This attests to the need for research that incorporates biomedical markers of health and indicators of nutritional status in survey data, to ensure that parental reports are supplemented with information that is free of recall bias.

The results showed that self-prescribed care was the most common response of both Kinh-Chinese and minority parents to childhood illness. "One of the most striking findings is that a substantial number of poor minority parents reported that they did not seek any care for their sick children," said Teerawichitchainan. "These results are consistent with the possibility that economic factors remain an important consideration when parents decide to seek professional consultation or give self-prescribed care to their children. They also show that poverty was not entirely offset by the health policies in place at the time of the survey."

In fact, the researchers argue, pro-poor policies that eliminated user fees in order to encourage low-income populations to seek

medical services may have achieved the opposite. The survey results show that these health initiatives increased the likelihood that better-off parents in remote disadvantaged communes would seek professional care for their sick children, but there is no corresponding evidence that free healthcare provision benefited children from poor families.

Economic or social factors?

Vietnam's healthcare policy has tended to focus on the economic elements of access. However, the research by Teerawichitchainan and Phillips indicates that social factors related to

ethnic minority status play an important role in parental decisions to seek care for a sick child. "Parents of ethnic minority children at all income levels were less likely to report that their children were sick," explained Teerawichitchainan. "When they recognized illness episodes, they were less likely to seek care, whether self-prescribed care or professional help." The study did show that maternal education among ethnic minorities may have had pronounced effects in increasing care-seeking behavior for childhood illnesses. A relatively recent official emphasis on extending maternal education among minorities may eventually contribute to bridging the health equity gap between Kinh-Chinese and ethnic minorities.

Furthermore, since 2002, the government of Vietnam has launched major targeted health policies to improve healthcare access for the poor, and these policies are soon to be evaluated in national survey research. Until these new policies are evaluated, however, evidence from this study suggests that health policies intended to benefit the children of the poor and most vulnerable have yet to do so appreciably. ■

SOURCE

Teerawichitchainan, Bussarawan and James F. Phillips. 2007. "Ethnic differentials in parental health seeking for childhood illness in Vietnam," *Poverty, Gender, and Youth Working Paper* no. 3. New York: Population Council.

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Anonymous and the Atlantic Philanthropies

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Bad Experiences Underlie Pregnancy-Related Dropout

In most African countries, when a girl gets pregnant or married, she also leaves school. Many people assume that most young women who drop out of school following a pregnancy or marriage would otherwise have remained in school. But is school dropout caused by adolescent pregnancy and marriage, or are early school exit, pregnancy, and marriage all the result of the same underlying circumstances?

Few studies have examined the relationships between early marriage, adolescent pregnancy, and leaving school. Two recent Population Council studies investigate the links between these phenomena in diverse African settings. One study looked at several countries in francophone Africa, and the other examined South Africa. “South Africa is unusual in the subcontinent in having a high rate of premarital adolescent childbearing, combined with high levels of adolescent female school attendance and liberal policies that officially allow pregnant girls and young mothers to stay enrolled,” says Kelly Hallman, Population Council health economist. The country also has child support grants for poor single mothers.

Despite the contrasting societal contexts in the two studies—in which girls’ opportunities with regard to pregnancy are quite different—the researchers found similarities in the schooling outcomes. The studies showed that negative early schooling experiences, such as repeating a grade and being older than other students in the same grade, are significantly correlated both with the risk of getting married or pregnant and with the risk of dropping out. In South Africa, girls who become pregnant are more likely to leave school entirely if they have had these negative experiences. In francophone Africa, negative school experiences represent a bigger challenge to school completion than do child marriage and adolescent pregnancy. These findings have important policy implications.

Francophone Africa

Population Council social scientists Cynthia B. Lloyd and Barbara S. Mensch analyzed

Demographic and Health Survey (DHS) data from sub-Saharan Africa, focusing primarily on five francophone countries: Burkina Faso, Cameroon, Côte d’Ivoire, Guinea, and Togo. In these countries, data were gathered from all reproductive-age women on their age at leaving school and the main reason for leaving school for those no longer attending. (Neither of these two pieces of information is part of the standard DHS questionnaire.)

Lloyd and Mensch found that girls are far more likely to leave school during adolescence for reasons other than childbirth or marriage than they are to leave because of either of these events. Several possible common causes

*Are early school exit,
pregnancy, and
marriage all the result
of the same underlying
circumstances?*

underlie premature departure from school and early marriage and childbearing. For example, starting school later than the suggested age, and thus being older than other students in the class, appears to be a factor predisposing girls to early school departure and early marriage and childbearing. Rather than being a causal factor, however, it could be that parents who place little value on the schooling of their daughters and plan to have them marry early are more likely to send them to school late with the expectation that they will stay in school only through the primary level. Speaking of the possible policy implications arising from these findings, Mensch states, “Policies that inform parents about the value of starting their children in school on time are likely to have beneficial effects both for grade attainment and for adolescent reproductive health.”

South Africa

Monica Grant and Kelly Hallman examined prior school performance as a factor in pregnancy-related school exit in South Africa. Grant, a former Council researcher and current doctoral student, and Hallman used data from an adolescent survey conducted in 2001 in KwaZulu-Natal. The study collected detailed retrospective data on schooling, pregnancy, and births.

Grant and Hallman found that poor prior school performance (as measured by temporary school withdrawal and grade repetition) is strongly associated with a young woman’s likelihood of becoming pregnant while enrolled in school, dropping out of school if she becomes pregnant, and not returning to school following pregnancy-related dropout. Young women who are the primary caregivers to their children are also significantly more likely to leave school than are women who share or relinquish childcare responsibilities. Furthermore, young women who live with an adult female are significantly more likely to return to school following a pregnancy-related dropout.

“The findings of both of these studies suggest numerous underlying causes for early school exit, pregnancy, and marriage: a lack of social and economic opportunities for girls and women and the domestic demands placed on them, coupled with the gender inequities of the education system. These conditions may result in unsatisfactory school experiences, poor academic performance, and cultural acceptance of early marriage and motherhood,” concludes Lloyd. ■

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OUTSIDE FUNDING

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Council Works to Reduce Unsafe Abortion in Mexico

In April 2007, Mexico City's legislative assembly voted to liberalize abortion law to permit the interruption of pregnancy in the first trimester. The city is a federal district—similar to Washington, DC—and has a state-like autonomy. The law is in place only in Mexico City; Mexico's states still have restrictive abortion laws. The Council's research and collaboration with local nongovernmental organizations, universities, professional associations, and the Mexican government helped bring about this groundbreaking legislation.

"The Population Council's research findings on abortion in Latin America have been used by government officials and women's rights advocacy groups to shape evidence-based policies, including the recent change in abortion law in Mexico City," says Sandra G. García, the Council's director of reproductive health for Latin America and the Caribbean. In 2007, García was honored as a recipient of the Guttmacher Institute's Darroch Award for Excellence in Sexual and Reproductive Health Research. She was cited for "research documenting abortion-related knowledge, attitudes, and practices in Mexico" that "played an important role in the... recent decision to legalize first-trimester abortion."

A commitment to women's health

The latest data from the World Health Organization show that in 2003, 3.9 million women in Latin America and the Caribbean obtained unsafe abortions. Of these, 2,000 died as a result, a figure representing 11 percent of all maternal deaths. Recent data on the incidence of abortion in Mexico are lacking, but Population Council investigators are completing a study with colleagues at the Guttmacher Institute and the Colegio de México to obtain current estimates of abortion incidence. Population Council research from 2001 indicates that 16.3 percent of women in Mexico have had an abortion.

For more than a decade, Population Council staff members in Latin America have focused on reducing maternal mortality

through abortion-related research and technical collaboration. The Council has become the preeminent source of abortion-related social science, epidemiological, and public health research in Mexico. Council staff have undertaken qualitative and quantitative opinion research on abortion, studies on the acceptability of medical abortion, and studies to quantify the contribution of unsafe abortion to maternal mortality and morbidity.

"Some of the most important and influential research we've done on this topic in Mexico was a set of national abortion opinion polls among the general Mexican population and with specific groups, such as physicians," says Population Council consultant and former staff member Diana Lara, a researcher on many of the Council's abortion studies.

A poll among Mexican physicians, conducted in 2002, showed that 84 percent of doctors felt that all public medical facilities in Mexico should offer legal abortions; however, only 11 percent of respondents said they had ever performed an abortion. A poll of the general population, conducted in 2000, showed that 79 percent of Mexicans felt that abortion should be legal in certain circumstances, such as when a woman's life is at risk or her health is in danger.

Currently, the only situation in which abortion is permissible throughout Mexico is when a pregnancy results from rape. Council research conducted in 2002, however, has documented the multiple barriers that confront Mexican women who seek legal abortion after rape. These women face bureaucratic red tape, a shortage of doctors willing to perform abortions, and social and psychological barriers to reporting the rape.

Mexico City's new law

The Ministry of Health in Mexico City estimates that between April 2007, when the new law was passed, and November 2007, physicians have carried out more than 3,000 abortions. However, while obtaining a first-trimester abortion has become much easier in Mexico

City, hundreds of women who sought abortions since the law was passed were unable to get them. There is a shortage of doctors willing to perform the procedure, as well as misinformation and lack of knowledge among some doctors who are willing to do so.

"The biggest challenge facing the Ministry of Health now is training its medical personnel to perform less invasive procedures, such as standardizing the use of misoprostol-only medical abortion regimens, and dealing with the lack of staff generally, because of conscientious objections," said García. "The Population Council will be working with Mexico City's Secretary of Health to analyze data on the use of the procedure and the women who have received it." ■

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Support Programs Aid Vulnerable African Children

Some 15 million children under age 18 have lost one or both parents to AIDS. The vast majority—more than 12 million—are in sub-Saharan Africa. By 2010, the number of children orphaned by AIDS is expected to exceed 20 million. A much larger number of children will be made vulnerable by the epidemic, as their parents become sick and household stability is threatened. In the countries most affected by HIV, children's social support systems have been left in tatters as the virus affects relatives, teachers, healthcare workers, and other people essential to children's well-being.

In the past, programs for orphans and vulnerable children provided mainly school fees, food, and healthcare. But increasingly program managers are recognizing the importance of psychological and social (psychosocial) services. The Population Council's Horizons Program recently assessed psychosocial support programs for orphans and vulnerable youth in Zimbabwe and Rwanda. The research points both to effective approaches and to program challenges that demand special attention.

The USAID-funded Horizons Program of operations research is implemented by the Population Council in partnership with the International Center for Research on Women, the International HIV/AIDS Alliance, the Program for Appropriate Technology in Health, Tulane University, Family Health International, and Johns Hopkins University. Horizons research findings are intended to enable USAID and its partners to allocate limited funds to the most effective interventions.

Zimbabwe

The population of Zimbabwe, particularly children, faces severe economic decline, agricultural devastation, and starvation. The Horizons team assessed psychosocial support programs in the city of Bulawayo. The project was a collaborative effort of the Regional Psychosocial Support Initiative, Horizons, and

the STRIVE Program of Catholic Relief Services. The researchers compared 700 young people (aged 14 to 20) who had been involved in psychosocial support programs with 558 young people who had not. Data were collected between September 2003 and February 2004. Among the children who had received support, 340 had been involved in a community-based "Kids' Club," 248 had attended the Salvation Army Masiye Camp, and 112 had attended the camp and gone on to become a camp counselor or a leader in the Kids' Club.

Exposure to psychosocial support was associated with greater self-confidence among

"Before, we had no hope for the future. After being advised, we felt courageous."

males. For example, 96 percent of males in the counselor/leader group reported feeling self-confident compared to 77 percent of those in the comparison group, a statistically significant difference. Similarly, males in the Kids' Club group were significantly more likely to report feeling self-confident in the last month than were their peers in the comparison group (85 vs. 77 percent).

"This finding among males reflects the aims of the interventions," said Laelia Gilborn, formerly of Horizons/Population Council, a principal investigator. "But more rigorous research is needed to find out whether the programs attracted more self-confident youth or whether the programs are responsible for increasing self-confidence." Because the study did not follow the young people over time, it is not possible to determine whether the program caused any of

the psychosocial outcomes. "We also need to find out why the results were not as pronounced among females," added Gilborn.

Intriguingly, respondents in each of the three intervention groups reported more psychosocial distress than young people in the comparison group. This unexpected finding stimulated extensive discussion among the researchers and program implementers. One possible explanation is that the programs help vulnerable youth become more aware of and articulate about their feelings.

"Psychosocial support programs may help youth become emotionally literate, which allows them to better express emotions," said Leslie Snider, another study investigator, who was at Tulane University at the time of the study. "If so, psychosocial support programs need to ensure that activities do not simply bring out emotions, but also help youth to cope with such feelings over time." The additional responsibilities taken on by the young leaders/counselors, such as mentoring and counseling younger children, could also contribute to their comparatively higher levels of distress. "We learned that psychosocial strengths coexist—in individuals and in the study population—with psychosocial distress. This was especially true of the leaders," said Gilborn.

Females in the study reported more traumatic life events. They also demonstrated greater psychosocial distress and were more likely to manifest their distress through physical complaints, such as fatigue and poor appetite. Program managers should be aware of girls' heightened vulnerability to hopelessness and poor self-esteem.

Crucially, the findings from Zimbabwe show that many youth, particularly those who have been orphaned, feel that they do not receive adequate guidance and support from adults. An important role for psychosocial support programs would then be to link young people with trusted adults. This is precisely the step that World Vision, a faith-based organization, took in Rwanda.

Rwanda

The children of Rwanda have endured two crushing blows. The genocide in 1994 resulted in the murder of more than 800,000 people. Before, during, and after that time, HIV has killed hundreds of thousands more. Currently, more than 100,000 Rwandan children live in households without any adults, so-called youth-headed households. World Vision Rwanda designed a mentoring program to address the challenges facing these young household heads in Gikongoro province. The organization evaluated the program with the help of the Tulane University School of Public Health, the Rwanda School of Public Health, and the Horizons Program.

World Vision Rwanda had already instituted a basic needs program for youth-headed households in several districts, which included assistance with housing, education, healthcare, and food. It then identified four of these districts to participate in a study. In two of the districts, young household heads received additional help in the form of an adult mentor, a trusted member of the community, who would visit at least once a month, and usually more often. The other two districts served as a comparison in the study. Mentors were trained to serve as caring and interested adults and to help solve problems. The researchers collected data from the households at the beginning of the program—March 2004—and again 18 months later.

“This study is ground-breaking in two major ways,” said Katie D. Schenk of Horizons/Population Council. “It is the first rigorous research to evaluate a community-based intervention for orphans and vulnerable children by comparing data collected before and after the intervention. There is also a notable focus on the psychosocial domain and developing appropriate measurement approaches. It indicates a practical way in which we really can make a valuable difference in the lives of children affected by HIV and AIDS.”

During the first round of data collection, 692 young heads of household between the ages of 12 and 24 responded; 608 responded in the follow-up round of data collection. An almost equal number of males and females responded, and more than 60 percent of these

young people reported having served as the head of their household for four or more years. Seventy percent of the respondents reported that both of their parents were dead. The remainder had been abandoned or did not know their parents’ whereabouts. Nearly a third cared for three or more children, with females more likely than males to care for several children.

Findings from this study suggest that mentoring by adults within the community can measurably alleviate adverse psychological and social outcomes among young males and females who serve as heads of household. “Despite disturbingly high levels of depression, maltreatment, and marginalization, as well as low levels of adult support reported at baseline,” elaborated researcher Lisanne Brown of Horizons/Tulane University, “follow-up data collected 18 months into the intervention, a relatively short time, indicate significant positive changes in psychosocial outcomes among youth participating in the mentor program.” Overall, the mentoring program appears to have enhanced social protection and community connectedness and minimized psychological problems among participants.

Young heads of households in the mentorship program perceived a significant increase in adult support. They also reported a significant decrease in feelings of isolation and stigma from the community. Youth who did not have mentors reported significant increases in feelings of grief, while those with mentors did not. Participants also reported a significant decrease in depressive symptoms. One participant, a 17-year-old boy, stated, “Before, we had no hope for the future. After being advised, we felt courageous. . . . This program helped us a lot.”

World Vision Rwanda expanded the mentoring program to all youth-headed households in the four communities after the second survey.

Similar to the study in Zimbabwe, the Rwanda study revealed that females were more susceptible to depressive symptoms. The researchers agreed that female orphans may need special assistance to prevent and overcome severe psychological problems. Further, children whose parents were murdered in the genocide, a particularly traumatic loss, were much more likely than other children to

experience depression and other severe symptoms, and may require more specialized attention.

During the 18 months between data collection in Rwanda, there was no positive impact of the mentoring program on the health status of other children in the household. There were improvements in other variables, however, such as increased school attendance and increased willingness to help with household chores. The program may need to be in place for a longer period of time to register an impact on the health of other children in the household.

“This study highlights the needs children have for someone to talk to about their feelings, relationships, and life decisions,” said Edward Kalisa of World Vision Rwanda. “Orphans are often left with this critical need unmet. Mentorship programs are a low-cost way to significantly improve the lives and well-being of orphaned young people.” ■

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Phthalates Toxic to Testosterone-Producing Cells

A recent scientific review authored by Population Council biomedical researchers has detailed the ways that chemical plasticizers damage the testosterone-producing Leydig cells. These chemicals, known as phthalates, are added to plastics to increase their flexibility. Phthalates are found in products as diverse as children's toys, medical tubing, and shampoo bottles. These findings have numerous implications for male fertility and health.

The review was written by Population Council biomedical researchers Matthew P. Hardy, Ren-Shan Ge, and Cigdem Tanrikut, along with Guo-Rong Chen of China's Wenzhou Medical College, and appeared in the journal *Reproductive Toxicology*. A related article appeared in the Chinese-language *National Journal of Andrology*.

Testicular dysgenesis syndrome

Research from Hardy's lab, as well as findings from other labs around the world, shows that phthalates exert a negative influence on Leydig cells, disrupting testosterone production and increasing cell proliferation. These effects potentially contribute to testicular dysgenesis syndrome. This syndrome includes a variety of conditions that involve the male reproductive system, including undescended testes, hypospadias (an abnormality of the penis in which the urethra opens on the underside), changes in the timing of puberty, testicular cancer, and reduced fertility. These various disorders have been hypothesized to arise from the same underlying condition, an injury or trauma to testicular development that occurs before birth. This trauma results in a failure to develop normal Leydig and Sertoli cells, two of the main cells that make up the testes. Leydig

cells produce testosterone, and Sertoli cells nurture developing sperm cells. Hardy's lab deals primarily with Leydig cells.

Studies by Hardy and others have shown that phthalates can affect Leydig cells in complicated ways at every stage of their development. Phthalates disrupt the production by Leydig cells of both testosterone and insulin-like growth factor 3 (INSL3). Phthalate interference with these substances could result in undescended testes. "The binding of INSL3 with a specific receptor, together with testosterone, is the trigger that causes the testes to descend from inside the abdomen, where they developed during gestation, to the scrotum outside the body," explains Ren-Shan Ge, a biologist in the Hardy lab and author on the recent study. The disturbance of testosterone production by phthalates could also lead to impaired sperm production.

In their recent summary, the Hardy team states that their studies, and studies from other laboratories, are building an evidence base showing that phthalates do not disrupt the

endocrine, or hormonal, system by binding to hormone receptors, which is the way that many other endocrine disruptors operate. Phthalates instead seem to "alter reproductive function by affecting hormone synthesis," according to Hardy and his co-authors. In many cases, screening assays that detect interference with hormone receptors have been used to evaluate potential endocrine disruptors. However, the team concludes, alternative tests may be needed in the case of phthalates. ■

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Remembering a distinguished scientist

Reproductive biologist Matthew Hardy died on 4 November 2007, after completing the New York City Marathon; he was 50 years old. Former co-editor-in-chief of the *Journal of Andrology* and founder of the Testis Workshop, Hardy was a preeminent specialist in male reproductive health. His significant contributions to the field were recognized by his peers worldwide. In acknowledgment of his service to the field of andrology, Hardy was to receive the American Society of Andrology's Distinguished Service Award at the group's 2008 annual meeting.



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